

Health Data for DERA Grant Applications

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Presentation Overview

- How is diesel exhaust connected with health?
- What facts can I use in my application to increase chance of funding?
- Where can I find these facts for my area?

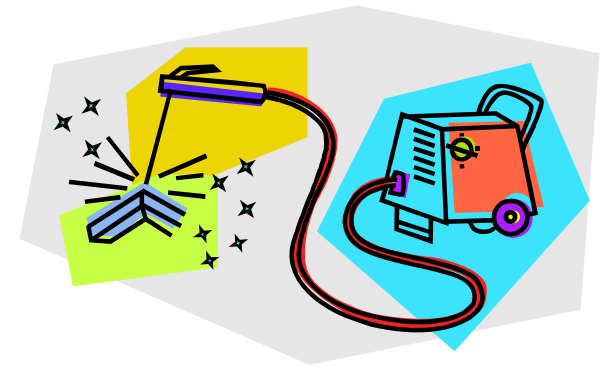
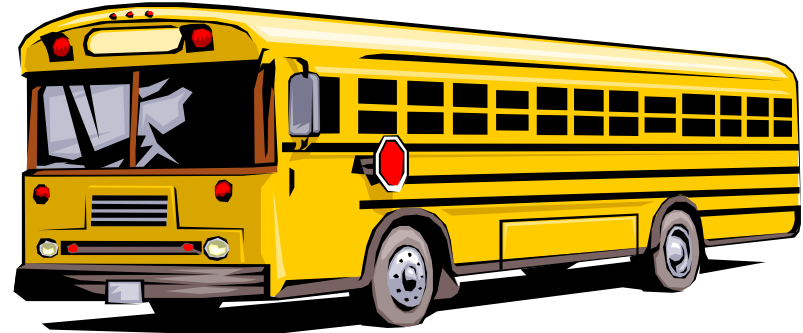
Help make a Health Benefit Case to improve your Grant Application

Guidance from EPA states:

- Prospective grant applicants should.....complete the following steps prior to the competition announcements:
 - Assess diesel fleets and identify eligible vehicles.
 - Establish eligible partnerships.
 - Prepare fleet and proposal descriptions.
 - **Evaluate public health benefits**, costs effectiveness, and emission reductions of the proposed project.....

Diesel Exhaust Emissions

- Health impacts
 - *Respiratory*
 - *Cardiac*
 - *Cancer*



Exhaust irritates airways

- The bulk of the studies show impacts on the respiratory system resulting in short term effects of:
 - Eye, throat, lung irritation
 - Increased cough, phlegm production
 - **Triggering asthma attacks**

Diesel aggravates asthma; Asthma incidence is high, especially in kids

- Asthma has risen dramatically since the 1970's, rates in preschoolers have risen at an alarming rate
- The total cost of asthma in Michigan is over \$394,000,000 per year, with indirect costs over \$170,000,000 and direct costs over \$224,000,000.

Michigan Asthma Statistics

- 233,894 children (9.1%) currently have asthma.
- 683,693 adults (9.0%) currently have asthma.
- The asthma prevalence for adults (9.0%) is slightly higher than that for the United States (8.1%).
- The asthma prevalence in Michigan is significantly higher for adult females (11.3%) than adult males (6.5%).
- 8.3% of white adults currently have asthma. 10.9% of black adults currently have asthma.
- Asthma prevalence for adults decreases with increasing income.

Cardiac impacts from Diesel

- Combustion-related particulate matter is associated with a host of severe impacts such as heart attacks, stroke, cardiovascular death
- May promote atherosclerosis (hardening of the arteries)

Cancer Risk – Diesel Exhaust

A number of Federal and State organizations have determined that diesel exhaust is likely a human carcinogen.

Detroit Air Toxics Initiative (DATI) report: listed diesel with an estimated cancer risk of 300-600 in a million in the Detroit area (though uncertainty in estimate)

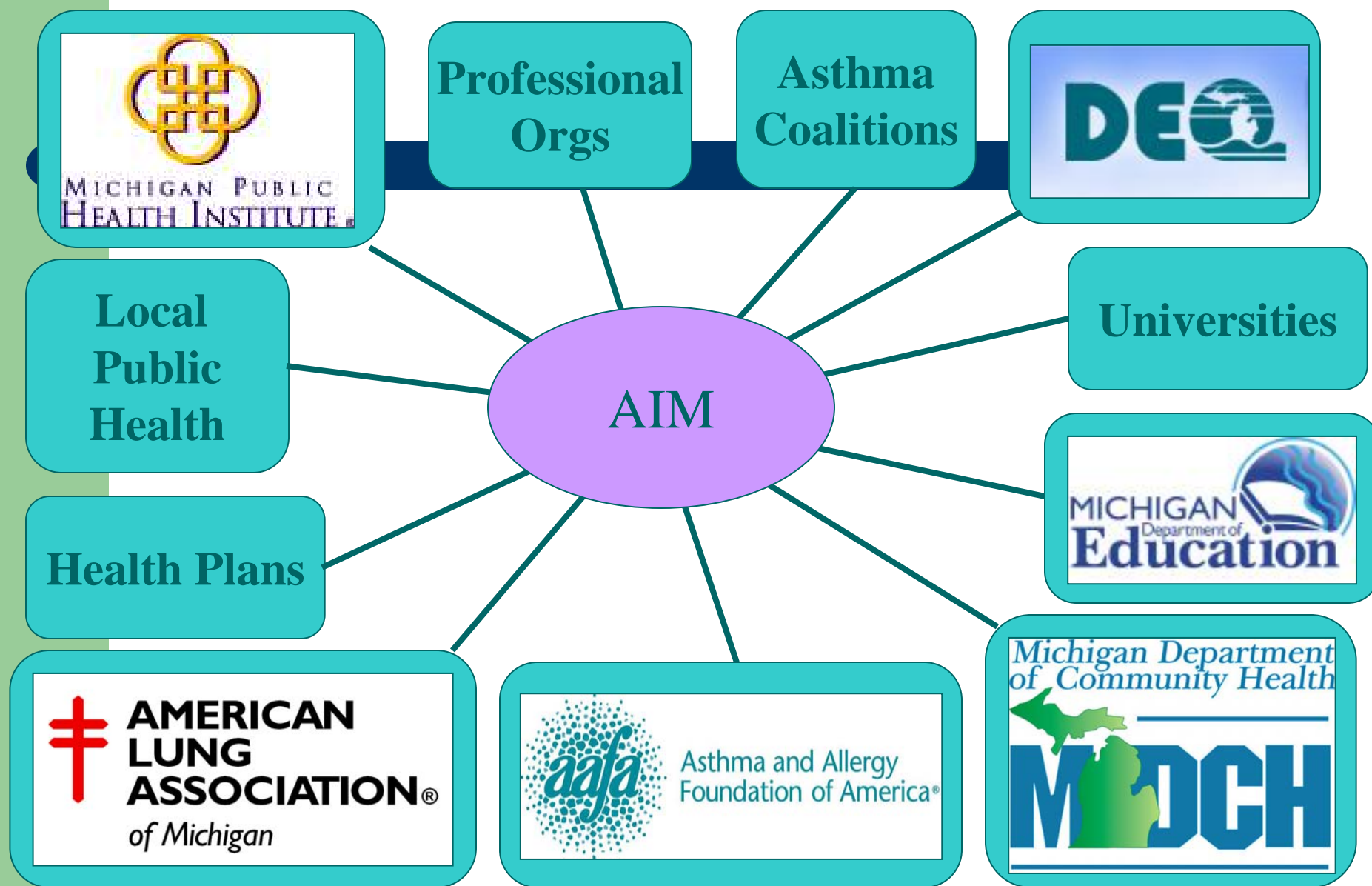
Special Risk for Children from School Buses

- On average, children spend more than an hour on a school bus each school day as well as time waiting for and getting on and off the bus. This increased potential for exposure and childrens' higher rates of respiration may lead to higher exposure to diesel exhaust in children. They are less likely to be able to expel or detoxify pollutants since their immune systems are immature.
- PM2.5 concentrations measured on buses have been found to be 5-10 times higher than average levels measured at fixed site monitoring stations. Smaller particles can penetrate children's narrower airways and are more likely to be retained there.
- When children's airways are inflamed or constricted by asthma, allergies or infections, diesel exhaust may make breathing more difficult..

Detroit Air Quality and Health

- 7 counties in SE MI are in non-attainment for PM_{2.5} NAAQS
- Hospitalizations for heart disease and respiratory illnesses were found to increase in Detroit with increasing fine particulate matter
- Increasing fine PM was associated with increased daily deaths in Detroit, with no evidence of a threshold
- Adverse impacts on lung function in children, especially African-American, low income children, were found with increasing levels of air pollutants (including PM₁₀)

AIM Partnerships



**For more information about
asthma statistics in your area:**

Visit the Asthma Initiative of Michigan Website

www.GetAsthmaHelp.org

Call Toll Free:

1.866.EZLUNGS

1.866.395.8647

Population and Other Health Statistics

- On the Internet, go to <http://michigan.gov/mdch>
- On the left side of the page, click on Statistics and Reports to find:
 - Population in your area
 - Hospitalizations for heart disease, cancer
- Useful for demonstrating need in your area

Find Local Health Departments

Michigan Association for Local Public Health
www.malph.org

Many Local Health Departments will have their own data on health that can be useful

Air Quality Information

- Find out air quality data for your area
 - If your area is not in attainment of the National Ambient Air Quality Standard for Particulate Matter, use this info in your application
- <http://www.deqmiar.org/>

Example statements

- Our County has 100,000 school aged children, 9000 of them have asthma.
Diesel exhaust aggravates asthma and increases health care costs and lost school days
Reducing diesel emissions in our district will benefit these children and reduce our health care costs.
- Our County's air quality is above the National Standard for particulate matter, this grant would help us reduce this pollutant.